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The Northeast region of India is currently facing a severe environmental and humanitarian crisis due to intense rainfall, floods, and landslides. Since May 28, 2025, these disasters have caused widespread destruction across Assam, Manipur, Mizoram, Tripura, Arunachal Pradesh, and Sikkim. Over 3.6 lakh people in Assam, 1,500 tourists stranded in Sikkim, and significant damage to homes and infrastructure highlight the region's vulnerability to extreme weather events.

- This disaster calls attention to India's disaster preparedness, climate resilience, and intergovernmental coordination, particularly in ecologically sensitive and infrastructure-deficient regions.

Rain batters Northeast India; lakhs affected

Nearly 3.6 lakh people in distress in Assam; more than 900 houses damaged in Manipur and Mizoram; 1,500 tourists stranded in Sikkim; 4 people died on Sunday, taking rain-related toll to 34; the IAF rescued 14 people stranded in the middle of the flooded Bomjir river in Arunachal Pradesh; Mizoram reported landslides from 211 locations

The Hindu Bureau
GUWAHATI/AGARTALA

Mild to heavy rain continued to batter large swathes of the northeastern region, with floods and landslides damaging more than 900 houses in Manipur and Mizoram, while 1,500 tourists were left stranded in northern Sikkim.

More than 3.64 lakh people across 19 districts of Assam have been affected in a wave of floods that disrupted road transport and train services on Sunday.

Four people – two in Assam and one each in Mizoram and Tripura – died on Sunday, taking the death toll due to rain-induced floods, flash floods, landslips, rockfalls, and lightning across the northeast since May 28 to 34.

Ten of these victims were in Assam, nine in Arunachal Pradesh, six each in Meghalaya and Mizoram, two in Tripura, and one in Nagaland.

In Sikkim's Mangan district, some 1,500 tourists were left stranded as roads were blocked following landslips. Superintendent of Police Sonam Detchu Bhutia said that the operation to locate nine people from Odisha and West Bengal who went missing after a vehicle fell into the Teesta river a few days ago had to be temporarily suspended.

The floods in Manipur affected more than 3,800 people and damaged at least 883 houses.

The Imphal East district suffered maximum damage, as some major rivers breached embankments, flooding many areas of the State's capital and the surrounding localities.

Large-scale damage was reported from the hilly Kangpokpi district and Senapati beyond.

Quick response: NDRF members evacuate patients and staff members from the flood-affected Jawaharlal Nehru Institute of Medical Sciences in Imphal East, Manipur, on Sunday. REUTERS

Rescue operation

The Indian Air Force (IAF) on Sunday rescued 14 people who were stranded in the middle of the flooded Bomjir river in the Lower Dibang Valley of Arunachal Pradesh.

The IAF pressed into service a Mi-17 helicopter following requests from the Arunachal Pradesh and Assam governments.

"The rescued people – 13 from Assam and one from Arunachal Pradesh – were sent back home safely," a defence spokesperson said.

On Sunday, Union Home Minister Amit Shah spoke with the Chief Ministers of Assam, Arunachal, and Sikkim, and the Governor of Manipur to take stock of the situation.

Assam Chief Minister Himanta Biswa Sarma said Mr. Shah had offered all possible assistance to deal with the situation.

Mr. Sarma warned the people of Assam to be wary of a sharp rise in river water levels due to heavy rainfall at Kibithoo (17 cm), Hayuliang (15 cm), and Kalaktang (10 cm) in Arunachal Pradesh. "Assam is witnessing intense rain in Silchar (42 cm), Karimganj (35 cm), and Hailakandi (30 cm). People living in low-lying and riverbank areas are advised to stay alert and follow local advisories," he said.

The submergence of tracks in the Karimganj section of southern Assam's Barak Valley forced the Northeast Frontier Railway to cancel several trains.

The floods in Tripura affected over 1,300 families. Chief Minister Manik Saha said the flood-affected people in the West Tripura district were being moved to safer areas, adding that the administration was helping marooned people across the State.

A delegation of the Manipur Pradesh Congress Committee, led by its president Keisham Meghachandra Singh, visited the flood-affected areas of the Imphal East district. Mr. Singh criticised the Water Resources Department for its failure to implement adequate flood management measures in flood-prone areas across Manipur. "Several anti-erosion and flood control projects initiated under the Flood Management and Border Area Programme of the Union Ministry of Water Resources remain incomplete," he said.

Deadly landslides

Mizoram continued to be one of the worst-affected States in the region, with officials recording landslides and landslips from 211 locations. At a review meeting headed by Chief Minister Lalduhoma, officials said 60 houses had collapsed while 69 more were deserted for fear of collapse, and seven power sub-stations suffered extensive damage, while roads were blocked at 83 locations.

Key Issues:

1. **Scale of Impact:**
   - Assam: 3.64 lakh people affected across 19 districts; 10 deaths reported.
   - Mizoram: Landslides at 211 locations, 60 houses collapsed, 69 vacated, and major power and road damage.
   - Manipur: 883 homes damaged; major breaches in Imphal East.

- Sikkim: 1,500 tourists stranded in Mangan due to landslips.
- Arunachal Pradesh: IAF had to airlift 14 people stranded in Bomjir river.
- Tripura: 1,300 families affected, relocation underway.

2. **Institutional Response:**
   - NDRF and IAF actively involved in rescue operations.
   - Union Home Minister Amit Shah personally coordinated with state governments.
   - State governments issued flood alerts, advised evacuation, and activated relief operations.
3. **Governance Failures and Criticism:**
   - Manipur Congress accused the Water Resources Department of failing to complete key flood management projects.
   - Many projects under the Flood Management and Border Area Programme (FMBAP) remain incomplete, pointing to implementation deficits.
4. **Infrastructure and Connectivity Breakdown:**
   - Train services in Barak Valley of Assam disrupted due to submerged tracks.
   - In Mizoram and Sikkim, multiple roads were blocked, cutting off key areas.
5. **Climate and Geography Factors:**
   - The Northeast, being a hilly and riverine region, is prone to flash floods, landslides, and soil erosion, exacerbated by unplanned development, deforestation, and high rainfall.
   - Heavy rainfall in upstream areas of Arunachal Pradesh caused rivers in Assam to swell dangerously.

Broader Concerns for Governance and Development:

- Climate Adaptation Deficit: The frequent recurrence of such disasters indicates inadequate implementation of climate-resilient infrastructure, especially in ecologically fragile hill states.
- Tourism Vulnerability: The stranding of 1,500 tourists in Sikkim reflects poor disaster-risk mapping and emergency planning in tourism-dependent hill areas.
- Centre-State Coordination: While the Union government extended support, the crisis underlines the need for better pre-disaster coordination, decentralized planning, and efficient fund utilization.
- Delay in Project Implementation: The incomplete status of flood control projects signifies governance bottlenecks — delays in fund release, poor monitoring, and administrative inefficiency.
- Urban Flooding and Encroachments: Imphal's flood-prone areas suffered due to embankment breaches, often worsened by encroachments and poor urban drainage.

Conclusion:

The 2025 Northeast flood crisis reveals the pressing need for integrated disaster management, climate-resilient infrastructure, and institutional accountability in India's most ecologically sensitive and strategically important region. It is not just a test of relief and rescue efficiency, but a call to revamp long-term

mitigation frameworks, strengthen early warning systems, and expedite pending projects under centrally sponsored schemes like the FMBAP and NDMA guidelines.

UPSC Mains Practice Question

Ques : The recurrent floods and landslides in Northeast India reflect deeper issues of governance and federal coordination. Critically examine this statement with reference to recent flood events in the region.**(250 words)**

Page 06: GS 3: Indian Economy

India's Gross Goods and Services Tax (GST) collections have maintained a strong upward momentum, staying above the ₹2 trillion mark for the second consecutive month. In May 2025, GST collections stood at ₹2.01 lakh crore, reflecting a 16.4% year-on-year growth from ₹1.72 lakh crore in May 2024. This continues the robust trend set in April 2025, when collections had reached a record high of ₹2.37 lakh crore.

- While the figures indicate a healthy revenue trajectory for the government, the data also reveals imbalances in revenue growth across states and an import-driven rise, rather than one fueled by domestic consumption.

GST collections remain above ₹2 trillion in May

Gross collections had touched a record high of ₹2.37 lakh crore in April; growth is not uniform across States; gross revenues from imports higher than those from domestic transactions

Press Trust of India
NEW DELHI

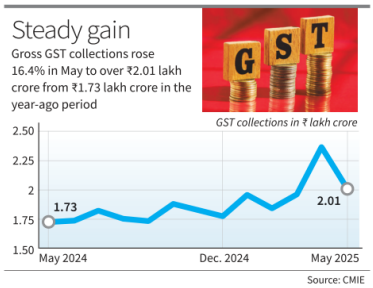
Gross Goods and Services Tax (GST) collections remained above the ₹2 trillion mark for the second month in a row, rising 16.4% in May to over ₹2.01 lakh crore. GST collections had touched a record high of ₹2.37 lakh crore in April. In May 2024, the mop-up was ₹1,72,739 crore.

In May 2025, gross revenues from domestic transactions rose 13.7% to about ₹1.5 lakh crore, while GST revenue from imports grew 25.2% to ₹51,266 crore. Total gross GST revenues stood at ₹2,01,050 crore.

Gross Central GST revenues stood at ₹35,434 crore, State GST revenues at ₹43,902 crore and Integrated GST at about ₹1.09 lakh crore. Revenues from cess were at ₹12,879 crore.

Total refunds issued during the month dipped 4% to ₹27,210 crore. Net GST mop-up in May stood at ₹1.74 lakh crore, a 20.4% year-on-year growth.

Deloitte India Partner M.S. Mani said the wide variations in the growth of GST collections across States require a thorough analysis across the sectors that are important in each State.



Variations across States

While large States such as Maharashtra, West Bengal, Karnataka and Tamil Nadu have reported collection increases of 17% to 25%, smaller States such as Gujarat, Andhra Pradesh and Telangana have shown increases of up to 6%. Some States such as Madhya Pradesh, Haryana, Punjab and Rajasthan have shown median increases of 10%.

"Hence, the average growth across the country does not appear to be uniformly reflected across States possibly due to sectoral or seasonal factors which require a deeper data-based analysis," Mr. Mani said.

Price Waterhouse & Co LLP Partner Pratik Jain said 16% growth in GST collections in the month shows a renewed upward momentum after a few months of growth in the range of 11% to 12%.

"If the growth continues in this range for the next couple of months, it might provide the cushion for the government to look at rate rationalisation on which a lot of work has already been done," Mr. Jain said.

Net GST mop-up in May stood at ₹1.74 lakh crore, which is a 20.4% growth year-on-year

EY India Tax Partner Saurabh Agarwal said looking ahead, "we might see similar GST collection numbers with slight increases in June because of ongoing geopolitical tensions across the globe".

'Import-driven growth'

Tax Connect Advisory Services LLP Partner Vivek Jalan said with an approximate 10% growth in domestic GST revenues and 73% growth in import GST revenues, it is very clear that this month's growth in GST revenue is import-driven rather than domestic consumption-driven.

"This coupled with the fact that exports refunds are not growing correspondingly, reflect the fact that import growth far exceeds export growth," Mr. Jalan added.

Key Highlights:

1. Composition of Revenue:
    - ₹35,434 crore from Central GST (CGST)
    - ₹43,902 crore from State GST (SGST)
    - ₹1.09 lakh crore from Integrated GST (IGST)
    - ₹12,879 crore from GST cess
2. Revenue Sources:
    - Domestic transactions rose by 13.7%.
    - Imports showed a stronger growth of 25.2%, contributing ₹51,266 crore.
    - Net GST revenue after refunds stood at ₹1.74 lakh crore (20.4% growth).
3. State-wise Disparity:
    - Larger States like Maharashtra, Tamil Nadu, West Bengal, and Karnataka witnessed high growth (17–25%).
    - Smaller States like Gujarat, Andhra Pradesh, and Telangana showed lower increases (up to 6%).
    - Mid-tier growth observed in MP, Haryana, Punjab, and Rajasthan (~10%).

Mains Analysis:

1. Positive Fiscal Signal:
    - Sustained collections above ₹2 trillion reflect economic recovery, improved compliance, and formalisation of sectors.
    - It strengthens fiscal space for the government, aiding welfare schemes, infrastructure spending, and debt management.
2. Import-Led Growth – A Cause for Caution:
    - The disproportionate rise in import GST (25.2%) compared to domestic GST (13.7%) suggests that the current growth may be import-driven rather than reflecting domestic demand expansion.
    - This poses concerns about trade imbalances and weak manufacturing output within India.
3. Uneven Growth Across States:
    - The non-uniform performance across States indicates the need to understand sectoral composition, seasonal factors, and state-specific economic challenges.
    - It also raises questions on the effectiveness of the GST revenue-sharing mechanism, which needs to ensure equity among States.
4. Implications for GST Reforms:
    - A consistent rise in revenues could reopen discussions on GST rate rationalisation, a long-pending reform aimed at simplifying the tax structure and reducing rate slabs.
    - However, this must be calibrated to not affect consumer demand or state revenues.

Conclusion:

While the continuation of GST collections above ₹2 trillion is a positive macroeconomic development, the underlying import-dependence, inter-state disparity, and slow growth in export refunds present challenges that need policy attention. A data-driven approach to understand sectoral GST contributions, regional imbalances, and rate rationalisation viability will be crucial for sustaining robust revenue while ensuring equitable federal fiscal management. As India looks to strengthen its tax system, balancing efficiency, equity, and buoyancy will be key.

UPSC MainsPractice Question

Ques: Despite crossing ₹2 trillion in monthly collections, the GST system continues to face structural challenges. Discuss the recent trends in GST revenue and the implications for tax reform and federal fiscal balance.**(250 Words)**

Page : 03 :GS 3 : Environment

India is witnessing a marked intensification in heatwaves, both in frequency and duration. Between 2010 and 2024, heatwave days have surged by over 200%, with regions like Odisha, Rajasthan, and parts of Central and Northern India bearing the brunt. The rising temperatures are not only a climate phenomenon but also a governance challenge, exposing systemic failures in urban planning, public health infrastructure, communication strategies, and rural support mechanisms.

- The situation raises a critical question — have we lost our ability to adapt, despite having centuries-old knowledge and modern scientific capabilities?

Key Issues and Analysis:

1. Escalating Heat Events and Inadequate Response

- The rise from 177 to 536 cumulative heatwave days between 2010 and 2024 reflects climate crisis acceleration.
- Yet, India lacks a unified national heat adaptation policy. Most responses are reactive, not preventive.
- Only a few urban areas like Ahmedabad have implemented data-backed heat action plans. Rural areas remain largely unprotected.

2. Underreporting of Heat-Related Deaths

- Official statistics vastly undercount heat-related mortality due to lack of real-time tracking, informal nature of workplaces,

Indian summers are getting hotter, but have we lost the ability to adapt?

Indians once knew how to live with heat. From mud homes to sandstone courtyards, people designed spaces that cooled by default. Work began at sunrise, paused during peak heat, and resumed in the evening. In cities, water-cooled courtyards, stepwells, and screens created microclimates

Ajay Singh Nagpure

Every summer, a familiar question surfaces across India, echoing from homes to newsrooms: is it genuinely hotter, or have we simply become more sensitive? This isn't just some nostalgic lament or biological quirk. The evidence is clear and uncompromising: India's heat is intensifying, creeping in earlier, stretching longer, and striking deeper than ever before.

What's happening isn't a trick of perception. It's real. Heat waves, once occasional and brief, have become persistent forces reshaping daily life and work. According to the India Meteorological Department, a heat wave is declared when the temperature reaches at least 40 degrees Celsius in the plains or 30 degrees Celsius in the hills, with a deviation of 4.5 degrees Celsius or more above normal for at least two consecutive days. These thresholds, once rare, are quickly becoming the standard during summer months. In states like Odisha and Rajasthan, what used to be brief seasonal heat spikes now stretch into longer, more frequent episodes, cumulatively spanning months. Between June 2010 and the summer of 2024, cumulative heat wave days soared from roughly 177 to 536 – a staggering increase of over 200%.

Heat wave days count the total number of days on which heat wave conditions are recorded across all affected regions. Since heat waves strike different places at different times, these days are summed nationally, so the total may surpass the length of the summer season in any single location.

Excess mortality analysis

Despite the increasing severity of heat waves, official data likely underrepresents their true impact. Various government departments collect and report heat-related deaths using different methods and sources, which can lead to variations in the numbers presented. Between 2000 and 2020, India recorded 20,615 heatstroke deaths, according to government records. However, many heat-related fatalities occur outside hospitals – at homes, construction sites, or village farms, for example – where medical assistance and formal death certification may not always be accessible. As a result, deaths triggered by heat are often recorded under broader causes like cardiac arrest or respiratory failure.

The absence of standardised, mandatory heat-related death reporting and real-time surveillance means many such deaths remain uncounted, creating challenges for public health planning and response. Independent researchers and organisations have sought to address this gap using excess mortality analysis: comparing actual deaths during heatwave periods with long-term seasonal averages.

While some critics question the accuracy of these estimates and the methods used, excess mortality analysis remains a widely accepted and robust epidemiological tool. It captures both direct and indirect deaths related to heat, including those misclassified under other causes such as cardiac arrest or kidney failure, which are often missed in official counts.

For instance, the Global Burden of Disease study estimated approximately 155,937 heat-related deaths in India in 2021, encompassing fatalities from heat waves, prolonged exposure to high temperatures, and heat-aggravated conditions. Given the known underreporting in official data, such model-based estimates provide a more comprehensive and realistic picture of the true human toll of extreme heat.

Living with heat

The human toll of heat waves is paralleled by significant economic damage. The 2022 heatwave reduced wheat yields in key producing regions by approximately 4.5%, with some districts experiencing losses up to 15%. This disruption contributed to inflationary pressures on food commodities worldwide. Simultaneously, the heatwave triggered a power crisis as electricity demand surged to an all-time high of 207 GW, straining the grid and causing blackouts in some areas. Labour productivity in outdoor sectors such as construction and agriculture suffered dramatically, as workers faced an impossible choice between enduring hazardous heat exposure or forfeiting income.

According to the McKinsey Global Institute, heat-related productivity losses could jeopardise between 2.5% and 4.5% of India's annual Gross Domestic Product by 2030, underscoring the urgent need for adaptive policies.

Many heat-related fatalities occur outside hospitals — homes, construction sites, or village farms — where medical aid and death certification may not be accessible. ANI

Ironically, India once knew how to live with heat. From the mud homes of Odisha to the sandstone courtyards of Rajasthan, generations designed spaces to cool without electricity. Rural routines followed solar rhythms: work began at sunrise, paused during peak heat, and resumed in the evening. Architecture used breathable materials like lime, thatch, and mud, keeping homes cooler than today's concrete structures. In cities, water-cooled courtyards, shaded alleys, stepwells (baoli), and perforated stone screens (jaali) created microclimates. These systems weren't folklore: they were practical responses to climatic conditions, embedded in culture and community.

A vivid example of this traditional wisdom is Navtapa, meaning "nine days of heat." Observed from May 25 to June 2, it marks the sun's entry into Rohini Nakshatra and was considered the most intense stretch of the summer. While rooted in astrology, Navtapa aligns closely with modern heat wave data. In this time, communities avoided heavy meals, rested during the midday, drank hydrating mixes like buttermilk and *sattu*, and provided shade and water for livestock. These practices, while culturally grounded, reflect sound physiological and environmental sense, and are today supported by modern science.

Why did these traditions wane? Not because they were ineffective but because modern development models evolved differently. Post-liberalisation planning favoured speed and scale, often overlooking climate sensitivity. Glass façades and concrete homes replaced breathable structures. Labour shifted from flexible agricultural cycles to more rigid, outdoor, informal urban jobs. Planning codes like the National Building Code don't mandate passive cooling. Real-estate finance rarely supports traditional materials. Without institutional support or economic incentives, these practices couldn't be sustained or scaled.

Invisible deaths

Meanwhile, India's formal response to heat is gradually evolving. Notably, Ahmedabad's heat action plan, implemented in 2014, has been associated with a significant reduction in heat-related mortality in the city, with an estimated 1,190 deaths avoided annually in its initial years.

Cities such as Bhubaneswar and Nagpur have initiated efforts to increase green cover and promote rooftop measures aimed at reducing heat absorption. However, many heat action plans remain largely advisory, often lacking binding mandates, dedicated budgets, or clear accountability mechanisms.

Real transformation demands holistic efforts. Building codes must evolve, and urban and rural designs should be inclusive by default. Clear roles for weather, disaster management, and local bodies are essential. Coordination lets India shift from scrambling through heat emergencies to managing them with resilience

Only a few cities have appointed trained climate officers or integrated heat considerations into their urban master plans. Public cooling shelters are limited in number, and awareness campaigns frequently rely on digital platforms that may not effectively reach regional language speakers, migrants, daily wage workers, and non-literate populations.

The rural landscape tells a tougher story. Despite most heat-vulnerable populations residing there, India still lacks a solid rural heat governance framework. Key programmes – including the Gram Panchayat Development Plans, the Mahatma Gandhi National Rural Employment Guarantee Act, and the National Health Mission – barely touch on heat issues. Unlike cities, villages have no counterpart to urban heat action plans. Panchayats often struggle with limited funding, staffing, and training, leaving them ill-equipped to set up cooling measures or modify work timings. Age-old water bodies, tree cover, and stepwells fade away, unsupported and overlooked. Many rural deaths remain invisible, depriving policymakers of crucial data.

Communicating heat risk

Beyond the bricks and mortar, a deeper gap persists: a disconnect between science and how people actually experience heat. Most don't grasp the "feels like" temperature, which factors in humidity, solar radiation, and wind along with air temperature. So when the thermometer says 42 degrees Celsius, the body might be battling conditions closer to 50 degrees Celsius. That hidden burden, far beyond mere numbers, causes dehydration, heat exhaustion, and heatstroke. Public health messages rarely translate this into everyday terms, leaving too many unaware and vulnerable to the real dangers.

Equally important is how heat alerts are communicated. In many parts of India, advisories are issued in Hindi or English, shared via apps and social media that assume literacy, smartphone access, and digital fluency. This approach may exclude millions, especially the rural poor, migrants, and older citizens. Heat warnings should not be confined to digital platforms. They must be delivered through oral announcements, local radio, posters, community workers, and trusted institutions in regional languages.

Inclusive communication must reach every corner, every community. Otherwise, awareness remains partial and fragmented. India stands at a crossroads with a chance to harness the wisdom and experience already woven into its fabric. Immediately, districts – urban and rural alike – can start rolling out heat action plans tailored to their realities, guided by the Disaster Management Act 2005. These won't be abstract policies but grounded actions: pinpointing heat hotspots, setting up shaded rest spots, ensuring water access, and sending alerts that people trust and understand.

Looking beyond the immediate, national programmes like the Pradhan Mantri Awas Yojana, the Mahatma Gandhi National Rural Employment Guarantee Act, and the National Health Mission offer a canvas to embed climate sensitivity. Think reflective rooftops, more trees, and natural ventilation: elements that cool homes and livelihoods alike. With financial channels like the Fifteenth Finance Commission and District Mineral Funds, local governments gain the muscle to scale these interventions fairly and effectively.

Down the line, real transformation demands more than isolated efforts. Building codes must evolve to favour passive cooling, urban and rural designs should be inclusive by default, and institutions must learn to speak the same language. Clear roles for the India Meteorological Department, National Disaster Management Authority, the State Disaster Management Authorities, municipal bodies, and village Panchayats are essential. Such coordination lets India shift from scrambling through heat emergencies to anticipating and managing them with resilience.

Knowledge isn't the bottleneck. India's heritage of traditional practices alongside modern science forms a rich foundation. The challenge lies in blending these, backed by political will and cohesive policy, to ready India for its hottest years ahead.

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and classification of deaths under other causes like cardiac arrest or kidney failure.
- Excess mortality analysis, such as the Global Burden of Disease estimate (~1.55 lakh heat deaths in 2021), offers a more realistic picture.

3. Breakdown in Traditional Wisdom and Planning

- India once thrived on passive cooling techniques — stepwells, jaalis, lime-plastered homes, shaded work hours — that were aligned with climatic realities.
- Modern planning, driven by speed and concrete urbanism, overlooks climate-sensitive design, replacing local materials with glass, cement, and steel.
- Navtapa, a traditional observance aligning with peak summer, embodied physiological and ecological awareness — now largely forgotten.

4. Gaps in Communication and Awareness

- Heat alerts often fail to reach the most vulnerable: rural poor, informal workers, migrants.
- Language barriers, digital divides, and inaccessible formats weaken the last-mile delivery of early warnings.
- The "feels-like" temperature, accounting for humidity and radiation, is not commonly understood, leading to under-preparedness.

5. Economic Consequences

- Heatwaves affect agriculture (e.g., 4.5% wheat yield loss in 2022), increase electricity demand (peak at 207 GW), and reduce labour productivity, threatening 2.5–4.5% of GDP by 2030 (McKinsey).
- Informal labourers often must choose between income and health, especially without heat safety norms or compensation.

6. Policy Blind Spots and Institutional Weakness

- Most heat action plans are advisory, without statutory backing, budget allocation, or accountability.
- Programmes like MGNREGA, PMAY, or National Health Mission rarely factor in heat adaptation.
- Panchayats, despite being closest to rural vulnerabilities, lack technical capacity and funding to act.

7. Way Forward: A Multi-Layered Response

- Immediate integration of heat considerations into District Disaster Management Plans under the Disaster Management Act, 2005.
- Use Finance Commission funds, District Mineral Funds, and central schemes to support cooling shelters, water access, tree planting, and heat-safe work routines.
- Revise building codes to encourage passive cooling, natural ventilation, and traditional designs.

- Train local bodies, designate climate officers, and standardise real-time death certification for heat-related fatalities.
- Communicate in local languages through radio, posters, and community workers, not just apps.

Conclusion:

India is no longer facing heat as a seasonal inconvenience — it is a chronic and structural crisis demanding urgent attention. The country possesses a dual legacy: centuries of traditional ecological wisdom and contemporary scientific tools. The challenge lies not in knowledge, but in governance, prioritisation, and integration. Without decisive adaptation strategies that reach both urban elites and rural poor, the intensifying heat will continue to claim lives, livelihoods, and economic stability.

UPSCMainsPractice Question

Ques:India is becoming hotter, but not necessarily more heat-resilient. Discuss the policy, institutional, and communication challenges in India's response to recurring heatwaves.(250 Words)

Page 07: GS 2 : Governance

India's recently released 2024–25 GDP data present a mixed economic narrative. While Q4 growth of 7.4% beat expectations and offered momentary optimism, the annual growth of 6.5% is the lowest since the pandemic year — falling short of the 8% growth needed to achieve the government's stated goal of "Viksit Bharat by 2047".

This duality — strong quarterly performance vs. underwhelming annual momentum — calls for a critical review of India's growth trajectory, its sectoral drivers, and the adequacy of policy responses in meeting the developmental ambitions of a transitioning economy.

Key Analysis:

1. Quarterly Optimism vs. Annual Slowdown

- Q4 FY25 growth (7.4%) was driven by:
  - Construction: rebounded to double-digit growth — a positive sign for employment.
  - Agriculture: posted unexpectedly strong performance.
  - Services: maintained steady expansion.

Growing pains

India needs to grow faster to transition as a developed economy

The data on India's economic performance in 2024-25, released on Friday, have something for everybody. Those with an optimistic outlook can rejoice at the seemingly robust growth in the fourth quarter. Pessimists can despair over the four-year low annual growth figure. The realist's assessment, however, is that there is cause for some restrained celebration, and more than a healthy dose of disappointment. The Q4 growth of 7.4% was considerably higher than what was expected for the quarter, and the fastest seen in an otherwise dismal financial year. The main drivers were the construction sector returning to double-digit growth, and the agriculture sector posting a strong showing. These are also two major employment drivers. Services, too, continued their steady and strong growth. The manufacturing sector, on the other hand, grew at just 4.8%, down from 11.3% in Q4 of the previous year. There is a reality check hiding in the aggregate numbers, as well. The GDP growth rate of 7.4% was achieved in large part due to a 12.7% growth in net taxes. This bump in tax collections provided a statistical boost without which growth in actual economic activity would have come in at around 6.8%. The much-hyped 'Maha Kumbh effect' on consumption expenditure also does not seem to have materialised. Growth in Private Final Consumption Expenditure in Q4 – the Kumbh quarter – came in at 6%, the slowest in five quarters. Capital formation, however, grew a robust 9.4% as the government finally sped up its sluggish capital investments.

Government officials and Union Ministers have expressed their satisfaction at the 6.5% growth in 2024-25, the slowest since the pandemic, saying it is still the fastest among major economies, and not bad in the context of a "growth-scarce" global environment. All of this is true. Yet, 'not bad' is not nearly good enough for India. The race is not with the rest of the world, but is an effort to keep pace with the country's growing requirements. The Modi government, with its sights set on a 'Viksit Bharat' by 2047, must be held to a higher standard in line with its aspirations. If, as the Economic Survey points out, Viksit Bharat by 2047 requires "sustained economic growth of close to 8% every year for at least a decade", then India is decidedly moving very slowly, even if in the right direction. In his press conference, Chief Economic Adviser V. Anantha Nageswaran said India was entering a phase of low inflation and stable growth. Stability can be good, since it implies lower chances of growth slowing. Yet, it also implies growth is unlikely to accelerate significantly either. The government needs to consider whether this is truly a satisfactory situation for a transitioning economy.

- However, the annual GDP growth stood at 6.5%, a four-year low, with manufacturing slowing to 4.8% in Q4, a sharp drop from 11.3% the previous year.

2. Tax-Driven Growth vs. Real Activity

- A significant portion of the Q4 growth stemmed from a 12.7% rise in net tax collections, which statistically inflated GDP figures.
- Without this tax boost, actual economic activity would have reflected a growth rate of approximately 6.8%, hinting at a more modest underlying momentum.

3. Consumption and Investment Trends

- Private Final Consumption Expenditure (PFCE) grew by only 6%, the slowest in five quarters, despite the expected "Maha Kumbh effect".
- Capital formation saw a healthy rise of 9.4%, indicating that government-led infrastructure investments are gaining traction after a sluggish start.

4. Sectoral Imbalances and Employment Implications

- While construction and agriculture are labour-intensive and pro-employment sectors, their revival is welcome but not enough to offset manufacturing's deceleration.
- Manufacturing is crucial not just for jobs, but also for export competitiveness and innovation-led growth.

5. Government's Narrative vs. Structural Needs

- Officials highlighted that India remains the fastest-growing major economy, which is factually correct in a global slowdown context.
- But relative performance is not sufficient for a country aspiring to become a developed economy by 2047.
- The Economic Survey warns that sustained 8% growth is essential — a target India is consistently missing.

6. Policy Dilemma: Stability vs. Acceleration

- Chief Economic Adviser mentioned India is entering a phase of low inflation and stable growth.
- While stability is desirable, lack of acceleration risks missing demographic and developmental windows, especially given India's young population and infrastructure deficit.

Conclusion:

India's economy is growing, but not fast enough to match its aspirations. The growth story of 2024–25 reveals pockets of strength — construction, services, tax mobilisation — but also areas of concern, especially manufacturing slowdown and weak consumption.

A mere comparison with the global average masks the urgent domestic requirements of job creation, poverty reduction, and infrastructure expansion. For Viksit Bharat 2047 to be more than a slogan, India must shift from being content with "stable" growth to pushing for transformational, inclusive, and sustained high growth — backed by structural reforms, strategic investments, and sectoral rebalancing.

UPSC Mains Practice Question

Ques: What are the key challenges India faces in achieving an 8% sustained growth rate needed for Viksit Bharat 2047?Suggest policy reforms to address these challenges.(**250 words)**

Page 10 : GS 3 : Indian Economy

India is projected to overtake Japan in 2025 to become the world's fourth-largest economy in nominal GDP terms, according to the IMF's latest estimates. Government sources have cited this as a major national achievement and linked it to effective governance and leadership. However, this celebratory narrative has drawn criticism from economists who caution against interpreting GDP rankings in isolation. The question arises: Does a higher GDP rank truly reflect national prosperity, well-being, and development?

Is India the world's fourth largest economy?

The GDP of a country tells us very little about how its people live and work, how healthy or educated its people are, and how unequally its aggregate income is distributed. A much better way of comparing countries might be a set of indicators that help us meaningfully measure economic performance and social progress

ECONOMIC NOTES

R. Ramakumar

Over the past week, much media space was devoted to discussions around the size of India's economy relative to other economies of the world. These discussions were based on the new estimates of the Gross Domestic Product (GDP) of various countries for 2024 by the International Monetary Fund (IMF), and its annual projections from 2025 till 2030. As per these projections, India's GDP in 2025 was likely to be $4,187.03 billion, which will be marginally higher than the GDP of Japan at $4,186.43 billion. Thus, in all probability, India will be the fourth largest economy of the world in 2025 after the U.S., China and Germany.

These discussions have stirred the political pot as well. Government sources attributed the improved rank to the leadership capabilities of the Prime Minister. It was also argued that India could grow to be the third largest economy of the world in 2028, and a high-income, developed country (*viksit bharat*) by 2047.

The many GDPs

The GDP of a country tells us very little about how its people live and work, how healthy or educated its people are, and how unequally its aggregate income is distributed. GDP estimates also miss out on measuring several crucial aspects of economic activity that are not covered by markets, such as the unpaid work of women. Hence, there have been repeated calls to revise national account systems, end the predominant use of GDP to assess everything, and use other indicators that allow us to study socio-economic achievements better. Yet, the dominant use of GDP has continued in global and domestic discourse.

In recent years, the politicisation of statistical systems has clouded any objective assessment of India's economic status. The discussions around India's rank in GDP size are just an example. Comparison of GDP sizes across countries is a complex effort. International organisations and economists have spent decades trying to perfect a robust methodology for these comparisons. Consequently, there is no single GDP estimate for countries. There are several GDP estimates based on different methodologies and units.

The methodology of estimating GDP in different countries is largely standardised even as there are variations in the quality of data collection. But these estimates are available only in the national currencies of each country. So, how does one compare the GDP size of India and, say, the U.S.? To compare, one needs the GDP estimates of all countries to be in one common unit. This common unit is the U.S. dollar.

On determining the GDP

But problems remain. There are two ways of converting a GDP estimate in a national currency to a GDP estimate in U.S. dollars. First, one may use market exchange rates from the foreign exchange markets. At the time of writing this article, one dollar was valued at ₹85.69. One may simply divide India's nominal GDP by ₹85.69 to get a GDP estimate in U.S. dollars, and then repeat that for all other countries and rank them.

According to the GDP estimates based on market exchange rates, India was ranked the fifth largest economy from 2021 (Table 1 and Figure 1). Taken forward, the IMF projects that India will be the fourth largest economy in 2025 and the third largest economy in 2028. The U.S. is ranked first, and China is ranked second.

But is this the only method to compare GDP sizes? It is globally accepted that conversions based on market exchange rates are robust only when the outcomes are closely linked to the prevailing exchange rates. Transactions in the "current account" of an economy are a case in point, which involves the flow of financial resources across countries. For example, how much did each country export in value terms? How much remittances did international migrants from each country send back home?

The PPP comparison

When we try to compare GDP sizes across countries and time, market exchange rates deliver poorly. This is primarily because first, market exchange rates are highly volatile, which creates problems for stable temporal comparisons (see the fluctuations in Figure 1). Secondly, market exchange rates do not work well when "purchasing powers" of people are different between countries. For example, the price of a beer in New York may be $5 but only about ₹150 in Mumbai (or $1.80). The price of a Big Mac meal in McDonald's may be $12 in New York but only about ₹385 (or $4.50) in Mumbai. Thirdly, the prices of non-traded goods tend to be far cheaper than traded goods in developing countries than in developed countries. For example, the monthly rent for a one-bedroom apartment may be about $4,000 in New York but only about ₹70,000 (or $824) in Mumbai. The price of a haircut in New York may be $30, but only about ₹200 (or $2.40) in Mumbai.

These differences across countries arise primarily because wages (and hence prices) are lower, and many non-traded sectors are labour-intensive, in developing countries than in the developed countries. If analysts ignore these differences, they will be underestimating the purchasing power of people in developing countries, and, hence, depressing their GDP estimates. This is why a second method is used to convert national currencies into dollars – 'PPP exchange rates', where PPP stands for Purchasing Power Parity. Here, the exchange rates used equate the cost of a "typical" basket of goods across countries. When converted to international dollars based on PPP exchange rates, the estimates of GDP for developing countries, where prices are relatively low, would rise. In 2024, the GDP of the U.S. was 7.5 times higher than India's GDP if the market exchange rates method was used. But it was only 1.8 times higher than India's GDP if the PPP exchange rates method was used.

If PPP-based GDP estimates are used to compare GDP sizes, an interesting finding emerges (see Table 2). India had already become the world's third largest economy in 2009 and has retained that rank for the past 16 years (see Figure 1). Also, IMF's PPP-based projections do not show any improvement in India's rank between 2024 and 2030. It turns out that the government has chosen to project and celebrate India's rank in GDP size based on market exchange rates – and not PPP exchange rates – only because the outcome suits its favoured political narrative.

Improving the comparisons

There is no doubt that the PPP method allows for a better comparison of GDP sizes than the market exchange rates method. However, the PPP method needs to be employed carefully so as to avoid misleading inferences. PPPs are used precisely because developing countries have lower wages, and hence lower prices and incomes, than in the developed countries. To cite an instance, about 76% of India's casual workers in agriculture and about 70% of India's casual workers in construction do not obtain even the prescribed minimum wages (as per ILO's India Employment Report 2024). In addition, countries like India have a large informal sector, which is marked by severe underemployment, and large numbers of unpaid female workers.

In other words, the poorer and the more underdeveloped a country is, the larger will be its "inflation" of GDP via the PPP route. Consequently, the fact that India was the world's third largest economy from 2009 itself must not delude anyone into believing that its GDP differentials with, say, the U.S. are rapidly narrowing, or that its GDP size is larger than that of Japan or Germany. An excellent example of such a misconception is the claim by Suman Berry, the Vice-Chairperson of the Niti Aayog, that India's GDP has already reached $15,000 billion (or $15 trillion) in PPP terms, which is more than thrice its GDP size at market exchange rates and constitutes half the size of the U.S. GDP.

India has a large GDP size, but it is also host to the world's largest population. One can boast about its GDP size only until someone sits down and divides the GDP by the population. The per capita GDP in India was $2,711 in 2024 in current dollar terms, which placed it at the lower end of the list of "lower middle-income countries". In the same year, the per capita GDP in Sri Lanka was $4,325, and in Bhutan was $3,913. In 1991, India had a higher per capita GDP at $304 than in Vietnam at $141. But by 2024, Vietnam's per capita GDP had grown to $4,536 while India's per capita GDP languished at $2,711. In terms of market exchange rates, India's rank in per capita GDP in 2024 was 144th among 196 countries. Even in terms of PPP international dollars, India's rank in per capita GDP in 2024 was 127th among 196 countries. Either way, we are faced with a "big economy illusion": India's large GDP size has very little to do with the well-being of its people.

A much better way of knowing if India is more developed or less developed than the U.S., China, Japan or Germany might be to compare a set of indicators across them that help us meaningfully measure economic performance and social progress – indicators that signify fundamental elements of life and work that citizens care about.

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Measuring the economy

Comparison of GDP sizes across countries is a complex effort. International organisations and economists have spent decades trying to perfect a robust methodology for these comparisons. Consequently, there is no single GDP estimate for countries but several, based on different methodologies and units

Table 1: Ranks of the top 10 economies in nominal GDP at market exchange rates, 1990 to 2030, in U.S. dollars

Country	1990	2000	2009	2024	2025p	2030p
United States	1	1	1	1	1	1
China	11	6	3	2	2	2
Germany	3	3	4	3	3	4
Japan	2	2	2	4	5	5
India	**14**	**13**	**11**	**5**	**4**	**3**
United Kingdom	5	4	6	6	6	6
France	4	5	5	7	7	7
Italy	6	7	7	8	8	9
Canada	7	8	10	9	9	8
Brazil	10	10	8	10	10	10

Table 2: Ranks of the top 10 economies in nominal GDP at PPP exchange rates, 1990 to 2030

Country	1990	2000	2009	2024	2025p	2030p
China	7	3	2	1	1	1
United States	1	1	1	2	2	2
India	**8**	**5**	**3**	**3**	**3**	**3**
Russian Federation	-	9	6	4	4	4
Japan	2	2	4	5	5	5
Germany	3	4	5	6	6	6
Brazil	9	10	8	7	8	8
Indonesia	13	14	12	8	7	7
France	5	7	7	9	9	10
United Kingdom	6	8	9	10	10	9

Note: Figures till 2024 are estimates, and afterwards are projections.

Figure 1: India's rank in GDP size at market exchange rates and PPP international dollars, 1980 to 2030

THE GIST

When we try to compare GDP sizes across countries and time, market exchange rates deliver poorly. This is primarily because first, market exchange rates are highly volatile, which creates problems for stable temporal comparisons.

There is no doubt that the PPP method allows for a better comparison of GDP sizes than the market exchange rates method. However, the PPP method needs to be employed carefully so as to avoid misleading inferences.

India has a large GDP size, but it is also host to the world's largest population. One can boast about its GDP size only until someone sits down and divides the GDP by the population.

Key Analysis:

1. **Different Measures of GDP and the Misleading Narrative**

- There are two major methods to convert a country's GDP into U.S. dollars:
  - Market Exchange Rate (MER) – reflects current financial flows and currency value.
  - Purchasing Power Parity (PPP) – adjusts for the relative cost of living and inflation, better representing real domestic buying power.
- By market exchange rates, India is expected to be the 4th largest economy in 2025, and 3rd by 2028.
- However, by PPP terms, India has already been the 3rd largest economy since 2009, and this ranking is not changing.

2. **GDP Size vs GDP Per Capita**

- Despite a large GDP size, India's per capita GDP remains low — $2,711 in 2024, ranking 144th out of 196 countries (MER) and 127th (PPP).
- Comparison with neighbours:
  - Vietnam: $4,536
  - Sri Lanka: $4,325
  - Bhutan: $3,913
- A large population dilutes per capita wealth, leading to a disconnect between aggregate economic size and individual well-being.

3. **Limitations of GDP as a Measure of Development**

- GDP does not reflect:
  - Income inequality
  - Employment quality or job security
  - Access to education, health, or public services
  - Gender disparities and unpaid work (especially by women)
- High GDP can mask underdevelopment in key human development indicators (HDI), informal economy dominance, and ecological degradation.

4. **Political Narrative and Statistical Illusions**

- The government's emphasis on GDP rank at MER, while ignoring PPP rankings or social indicators, serves political optics.
- As pointed out, GDP inflation via PPP occurs because developing countries have lower prices due to low wages. It reflects poverty, not wealth.
- This creates a "big economy illusion" — a sense of achievement disconnected from the real socio-economic conditions of citizens.

5. Need for Better Indicators of Development

- Economists advocate a dashboard of indicators rather than a single GDP metric to measure:
  - Income distribution
  - Access to healthcare and education
  - Employment security
  - Environmental sustainability
  - Gender and caste equity
- The Human Development Index (HDI), Multidimensional Poverty Index (MPI), and Gini Coefficient are examples of better evaluative tools.

Conclusion:

India may soon be the fourth-largest economy by GDP size, but this milestone must not blind us to the deep structural challenges of inequality, underemployment, poor health infrastructure, and low per capita income. A large GDP is not synonymous with prosperity for all. India must focus on broad-based human development, equitable growth, and better statistical transparency to ensure that its economic power translates into real improvements in the lives of its people. Mere statistical rankings are not enough — inclusive and sustainable development must be the true goal.

UPSC Mains Practice Question

Ques: India's growing GDP size does not necessarily imply economic well-being or equitable development. Discuss with reference to recent global GDP rankings and per capita indicators.**(250 words)**

Page : 08 Editorial Analysis

Regulating India's virtual digital assets revolution

Urvi Pathak

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India continues to lead in grassroots crypto adoption, for the second consecutive year in the 'Geography of Crypto' report by Chainalysis (2024). A National Association of Software and Service Companies (NASSCOM) report finds that Indian retail investors poured $6.6 billion into crypto assets and predicts the industry could create over eight lakh jobs by 2030. India also boasts one of the largest and fastest-growing web3 developer cohorts.

This vibrancy may seem surprising, given the rocky journey of crypto, known as 'Virtual Digital Assets' (VDA), in India, within the domestic regulatory and policy landscape. In May 2025, the Supreme Court of India questioned the absence of comprehensive and clear crypto regulation in India, with a remark, "Banning may be shutting your eyes to ground reality". This observation highlights the dissonance between VDA reality and VDA policy which has created significant challenges for regulators and market players.

Navigating India's VDA regulatory gaps

India, as a country of strict capital controls and tightly regulated payment systems, has found it difficult to reconcile these frameworks with the decentralised nature of VDAs. The Reserve Bank of India (RBI), as the domestic regulator of monetary policy, began expressing concerns about the potential threats of crypto as early as 2013, highlighting the risks associated with their lack of authorisation from any central bank or monetary authority. Despite this warning, the market saw unassailed growth in India, leading the RBI to issue a second circular in 2018, barring financial institutions from dealing with VDA-related entities. This restriction proved short-lived, with the Court overturning the circular in 2020.

The government then turned to prohibitive taxation policies as a stop-gap measure while appropriate regulations were formulated. In 2022, India implemented two key tax policies for VDAs under the Income Tax Act: a 1% tax deducted at source (TDS) on VDA transactions exceeding ₹10,000 under Section 194S and a 30% capital gains tax under Section 115BBH which disallows loss offsetting. Although these measures were designed to enhance transparency and curb speculation, their effectiveness has been limited.

There is a wide gap between reality and policy, creating challenges for regulators and market players

Estimates by various industry reports and think tanks show that between July 2022 and December 2023, Indians traded over ₹1.03 trillion worth of VDAs on non-compliant platforms, with only 9% of the estimated ₹1.12 trillion in VDAs held on domestic exchanges. Offshore trading resulted in a loss of ₹2,488 crore in uncollected VDA tax revenue for India. Between December 2023 and October 2024, Indians traded over ₹2.63 trillion on offshore platforms. The cumulative uncollected TDS from offshore exchanges since July 2022 is estimated to exceed ₹60 billion, with the nine blocked exchanges accounting for over 60% of this trading volume. Efforts to block access to non-compliant platforms, such as URL blocking, had limited success. Trade volumes on blocked exchanges rebounded after temporary declines, and web traffic to these platforms rose by 57%. Users continued to bypass restrictions using virtual private networks (VPN), mirror platforms or servers, and by migrating to other non-compliant exchanges.

Role of VASPs

Guidelines by global standard-setting bodies, such as the International Monetary Fund, Financial Stability Board, and the Financial Action Task Force, converge in favour of comprehensive and risk-based regulation that is harmonised with international standards (a process that is underway). However, these frameworks and regulations rely on domestic, compliant intermediaries or Virtual Asset Service Providers (VASP) that act as the bridge and eyes for regulators. These intermediaries facilitate the alignment of the VDA industry with existing laws and enforcement of policies, and enhance visibility over the ecosystem, while providing crucial inputs concerning on-the-ground issues.

In contrast, India's existing policy regime, which inadvertently pushes VDA users to offshore, non-compliant platforms, erodes the country's ability to mitigate the risks presented by VDAs, as well as tax revenues that may have otherwise been collected.

In comparison, Indian VASP platforms are sharpening their teeth and maturing rapidly, having shown a willingness to comply with regulations and act in good faith. For example, their collaboration with the Financial Intelligence Unit-India has been instrumental in strengthening anti-money laundering and counter-terror financing controls, earning positive feedback from the Financial Action Task Force (FATF). The aftermath of the devastating hack in 2024, which wiped out $230 million, further showcased proactive measures by Indian exchanges. Many stepped up efforts such as enhancing cyber security measures, setting up dedicated insurance funds in case of future thefts, and uniting to develop and enforce industry-wide cybersecurity guidelines.

Need for a framework

These possibilities signal the critical role played by VASPs towards a safer digital asset ecosystem. Combined with their contributions to national value creation and economic growth, these platforms present a more viable and constructive channel for funds to flow through under the oversight of Indian regulators. To move beyond the current policy stasis – where tax is levied without meaningful regulation – a balanced, pragmatic and future-proof regulatory framework is necessary. India must take decisive action to create the comprehensive legislation that the crypto industry requires while mitigating associated risks.

Paper 02 : Governance

UPSC Mains Practice Question: India's current policy regime on Virtual Digital Assets is punitive in taxation but permissive in regulation. Critically analyse this approach and suggest a comprehensive regulatory framework for VDAs.(250 words)

Context :

India has emerged as a global leader in grassroots crypto adoption, with over $6.6 billion invested by retail investors and a thriving developer base in Web3 technologies. Yet, this growth is occurring in a regulatory vacuum. Despite the scale of activity and associated risks, India lacks a comprehensive law or regulatory framework for Virtual Digital Assets (VDAs). The Supreme Court's 2025 observation that "banning may be shutting your eyes to ground reality" has brought renewed urgency to the debate.

The current approach — high taxation without regulatory clarity — is pushing VDA activity to offshore platforms, leading to loss of tax revenue, regulatory oversight, and increased financial risks.

Key Analysis:

1. **Patchy and Reactive Policy Regime**

- RBI began warning against cryptocurrencies in 2013, fearing risks to monetary policy and financial stability.
- The 2018 RBI ban on banking services for crypto was struck down by the Supreme Court in 2020.
- In 2022, India imposed:
  - 1% TDS on transactions above ₹10,000 (Section 194S)
  - 30% tax on capital gains, with no loss offsetting (Section 115BBH)
- These were meant as interim controls but became de facto policy substitutes in the absence of full regulation.

2. **Consequences of Tax-First, Regulate-Later Approach**

- Massive shift to offshore exchanges:
  - Over ₹3.6 trillion traded offshore between July 2022 and October 2024.
  - Estimated ₹6,000+ crore in uncollected TDS.
- URL and exchange blocks were ineffective — VPN use surged by 57%.
- Only 9% of assets are held on Indian exchanges, reducing both regulatory visibility and domestic compliance.

3. **Potential of Domestic VASPs (Virtual Asset Service Providers)**

- Indian exchanges have:
  - Cooperated with FIU-India on anti-money laundering (AML) and counter-terror financing (CFT) compliance.
  - Introduced insurance funds and cybersecurity standards after a major 2024 hack.
- These efforts reflect a maturing sector, eager for regulatory legitimacy.

4. **Global Convergence on Risk-Based Regulation**

- IMF, FSB, and FATF all recommend comprehensive, harmonised, and risk-based VDA regulation.
- Global regulatory success hinges on trusted intermediaries (VASPs) who enable:
  - KYC compliance
  - Tax reporting
  - AML enforcement
- India's current model, which penalises but doesn't regulate, undermines trust and drives activity underground.

Conclusion:

India's VDA ecosystem is vibrant but directionless, caught between innovation and regulatory inertia. The current regime of high taxation without a robust legal framework is counterproductive — driving users to offshore, non-compliant exchanges and eroding sovereign control, financial safety, and tax collection.

A future-ready, balanced regulatory framework must:

- Legalise and license domestic VASPs under well-defined compliance norms.
- Align with global best practices in risk management, investor protection, and financial stability.
- Use regulation not as a barrier but as an enabler of innovation, employment, and secure adoption.

India has the opportunity to become a global crypto-regulatory model — but only with decisive and inclusive policymaking that matches its digital ambition.
